

## ABSTRACT

A system for aggregating portions of multiple blocks of data into a single composite block. The block of data comprises different packets of data stored in correspondingly different sections of a memory. The system gathers selected portions of the stored packets  
5 and then transfers the selected portions of the gathered packets into a transmitted block of data having the selected portions appended contiguously one to the other. The memory stores the packets in word-based locations, the word-based locations having a common word width,  $W$ . The stored packets have a variable number of bytes. The bytes of the gathered selected portions of the stored packets are offset from an initial byte position of the stored  
10 packets. The packets have variable offsets. Also, a disclosed is a system for distributing packets stored contiguously in a memory to a plurality of different non-contiguous memory locations